

Work Order ID 148499***148499***

Page 1

Monday, July 04, 2016 7:53:00 AM

Item ID: D5408-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Suspension Rope

Start Date: 7/8/2016 Start Qty: 500

5

Cust Item ID:

Required Date: 7/15/2016 Req'd Qty: 500

5

Customer:

Reference:

DAS

Approvals: Process Plan: 21 Date: JUL 05 2016

Tooling:

Date:

Run Start ***NR1***QC: Date: SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D5408

A

100

0.00

100

PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O:

Possible Supplier: McMaster Carr
Description: Suspension Rope
Supplier P/N: 3132T2
order in lengths of 40'

C OF C is required

u 160706

110

0.00

110

Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

lex SP/6-7-11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 148499

Monday, July 04, 2016 7:53:00 AM

148499

Page 2

Item ID: D5408-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Suspension Rope

Start Date: 7/8/2016 Start Qty: 5.00

5

Cust Item ID:

Required Date: 7/15/2016 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	Memo	0.00							DAS 38 9-89 JUL 12 2016
Quality Control									
122		0.00							
122									
Small Fab	Memo	0.00							
Small Fab	1- CUT TO 30 FEET AS PER DWG								
	ENSURE ENDS OF ROPE ARE MELTED AS PER DWG NOTES								
124	QC5- Inspect part completeness to step on W/O	0.00							
124									
QC	Memo	0.00							DAS 38 9-89 JUL 14 2016
Quality Control									

P.T.O. →

5 FF JUL 13 2016

DQA:

Date: 16.08.09



QA Closed:

Date: 16/07/19

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: 148499		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D5408-1		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. 16-5915		Scrap ☒		Machining ☐	Small Fab ☒	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: JUL 13 2016		Step #: 122		QTY Effective: 1			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition			Completed By		
cut D5408-1 suspension rope to short by 6 FT operator error (Heat stroke ☺)				No Replace			DAS 30 9-89 16/07/14		
							Lead hand / Supervisor		
							Approval Verification		
							DAS 30 9-89 16/07/14		
							QC / QA Coordinator		
							DAS 30 9-89 16/07/14		
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☒	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☒	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 148499

148499

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Monday, July 04, 2016 7:53:00 AM

Item ID: D5408-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Suspension Rope
 Start Date: 7/8/2016 Start Qty: 5.00 *5* Cust Item ID:
 Required Date: 7/15/2016 Req'd Qty: 5.00 *5* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>St-318</u>	0.00				5	DAS 6 9-89		
130	Memo	0.00							JUL 15 2016
Packaging									
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00					DAS 21 9-89		JUL 18 2016
140	Memo	0.00							
QC									
Quality Control							DAS 21 9-89		JUL 15 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

Monday, July 04, 2016 7:53:05 AM

Page 1

Work Order ID: 148499

148499

Parent Item: D5408-1

D5408-1

Parent Item Name: Suspension Rope

Start Date: 7/8/2016

Required Date: 7/15/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 16.03.28 AS PER DWG REV.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

3132T2		Purchased			No		f	0.0000		6.666667			
--------	--	-----------	--	--	----	--	---	--------	--	----------	--	--	--

3132T2

Suspension Rope (40ft lenght)

6 SP 16-711.

DQA: _____ Date: _____



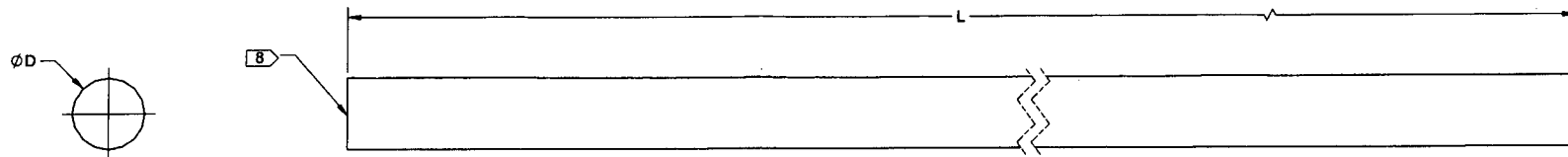
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

SPECIFICATION CONTROL DRAWING



D5408-X SUSPENSION ROPE

DART P/N	DESCRIPTION	VENDOR	VENDOR P/N	DIAMETER "D"	LENGTH "L"	MATERIAL	TENSILE STRENGTH	SAFETY FACTOR	COLOUR
D5408-1	SUSPENSION ROPE	MCMASTER CARR	3132T2	0.16"	30 ft	POLYESTER	80 lb	12:1	BLACK WITH REFLECTIVE STRANDS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 148499 M.C.S.

- NOTES:
- 1) MATERIAL: SEE TABLE
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.6
 - 7) WEIGHT: N/A
 - 8) ENSURE ENDS OF ROPE ARE MELTED TO AVOID FRAYING

A	NEW ISSUE	VS	16.03.08
REV.	DESCRIPTION	BY	DATE
DESIGN	VS		
DRAWN	VS		
CHECKED	RF		
MFG. APPR.	JLM		
APPROVED	WM		
DE APPR.	DS		
DATE	16.03.08		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D5408** REV. A
SHEET 1 OF 1

TITLE **SUSPENSION ROPE** SCALE NTS

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RELEASED
2016-03-23
ECN 16-548

APPROVED



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO32936

Purchase Order Date 7/6/2016 2:56:19 PM

PO Print Date 7/6/2016

Page Number 1 of 3

Order From :

MCMaster-CARR SUPPLY CO,
P.O. BOX 7690
CHICAGO, IL 60680-7690
US

VU-MCM001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
Order

Contact Name

Vendor Phone 330 995 5500

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms Net 10

Currency USD

FOB FCA - (Free Carrier)

Ship To Contact

Ship To Phone

Ship Via: Purolator ground ppd

Ship Acct:

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
10	9372T21 AS PER DWG D5321 REV. B B148497	Ring	7/13/2016 Yes 7/13/2016	FN	40.00 Each	\$0.67	\$26.68
						Line Total:	\$26.68
11	3132T2 AS PER DWG D5408 REV. A B148499 6 PCS OF 40 FT	Suspension Rope (40ft length)	7/13/2016 Yes 7/13/2016	FN	6.00 Each	\$34.80	\$208.80
						Line Total:	\$208.80

Note:

7/6/2016



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO32936

Order Placed By
Linda Lacelle

McMaster-Carr Number
5528553-01

Page 1 of 1

07/06/2016

Line	Product	Ordered	Shipped
1	9372T21 Welded Nickel-Plated Steel D-Ring, for 1" Webbing Width, Packs of 10	4 Packs	4
2	3132T2 Rope with Hook - Not for Lifting, Polyester Cover, 5/32" Diameter, 40' LG.	240 Feet	240
3	3076T13 Tie-Down Ring, Zinc-Plated Steel Ring & Clamp, 500# Work Load Limit, 2" ID	40 Each	40
4	59005A24 Mechanical Aid Spring, Air-Powered Hammer Retainer	2 Each	2

Certificate of compliance

This is to certify that the above items were supplied in accordance with the description and as illustrated in the catalog. Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

Sarah Weinberg
Compliance Manager